

CONSERVATION Showcase

Study Yielding Initial Answers to Water Depletions in Sacramentos

The Otero Soil & Water Conservation District (SWCD) is tackling water depletion problems in 750 square mile area of southcentral New Mexico, and instituting a scientific approach to watershed management that they and others can use.

Drought in New Mexico during recent years has severely impacted many wells and streams in the Sacramento Mountains resulting in fish kills and damage to riparian habitats. The Otero SWCD has responded to these events by approaching the State of New Mexico for funding to do a hydrogeologic map. The purpose of the project is to determine the movement and depletion of the groundwater in the area.

Understanding scientifically the movement and depletion of groundwater in an area can be an enormous leg-up for land managers when planning conservation measures. It can enable the managers to identify which hillsides are helping the flow of a particular stream. It can highlight the consumptive use of forest areas, and therefore note locales where the forest is overly dense, excessively depleting groundwater, and in need of thinning. And, simply stated, it can give land managers the scientific information they need to make sound conservation decisions.

The State of New Mexico saw the vision of the Otero SWCD and funded the study in multiple legislative sessions. The Otero SWCD has since secured the New Mexico Bureau of Geology & Mineral Resources at New Mexico Tech to complete the work. Assistance has also been obtained from



the New Mexico Forest Institute, New Mexico State Forestry, and New Mexico State University.

To complete the work wells are being monitored, springs metered, and gauging systems installed on streams. Thus far some 570 square miles have been mapped, a data base of more than 200 wells and springs has been developed, and a number of springs have been sampled for water chemistry and various age-dating techniques.

The first result has been the identification of a recharge area, where the New Mexico Environment Department is supplying 319 funds so forest thinning can occur on land owned by Coleman Farms. The goal is to return the project area to its pre-settlement condition. The site is at 8500 feet on a south facing slope in the Sacramentos with an overly-dense mixed-conifer forest. It impacts three springs.

The Otero SWCD is moving on, and hopes to secure the assistance of USDA-Natural Resources Conservation Service, Environmental Quality Incentive Program (EQIP) funds and New Mexico State Forestry aid, for its second effort.